TECHNICAL BOOK REVIEW INDEX

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JULIA C. WALLACE, *Editor*

Volume 14 **May, 1948** **Number 5**

THE purpose of the Technical Book Review Index is primarily to identify reviews in current scientific, technical, and trade journals; secondarily, when feasible, to quote from these reviews. In the evaluation of scientific and technical books, reviews constitute the best existing source of information. The service of the Technical Book Review Index is thus in the field of evaluation, rather than in competition with existing publications which announce new and forthcoming books, list books by subjects, or supply bibliographic information. Each quotation immediately follows the name of the journal from which it is taken. Obviously, these brief extracts, detached from the context, must not be accepted as conclusive. Except for the correction of obvious errors, the bibliographic information is as given in the reviews. It is, therefore, in many cases incomplete and in some cases probably inaccurate.

Alexander, Edwin P. Pennsylvania Railroad; a pictorial history. 248p. 1947. Norton, New York, $6.

Railway age, Feb. 21, 1948, p.84. ⅛ col.

"There are seven parts to this history of the Pennsylvania — origin and development; the building of the road; passenger service; freight service, shops, and marine operations; locomotive developments; electrification; and some incidents of Pennsylvania Railroad history . . . Contains over 300 very fine illustrations, nearly all from the author's collection. Since, as the author says, the Pennsylvania continues to develop, its history cannot be complete and somewhat more attention is given to its inception and early growth."

Alfrey, Turner, jr. Mechanical behavior of high polymers. 581p. 1948. Interscience Publishers, New York, $9.50. (High polymers series, v.6.)

British plastics, March 1948. p.140. ⅝ col.

"Not attempt has been made to catalogue the properties of the whole family of high polymers, instead the author has tried to 'uncover the fundamental principles underlying the mechanical behaviour (or behaviours!) of high polymers, and to show how such behaviour is correlated with the molecular structures involved.' Consequently the author confines himself to those polymers which have been carefully studied from the 'fundamental point of view.' How well the author performs his task must be left to the specialized reader to judge; here we can only say that he has gone about it in a workmanlike fashion . . . The author and the publishers must be congratulated on bringing into being an invaluable book, which no serious student of high polymer behaviour can afford to miss."

India rubber journal, March 6, 1948, p.15. ⅝ col.

"Not a book of quantitative data, tabulating the numerical value of the mechanical properties of the immense variety of polymers now available in the rubber and plastic fields. On the contrary, it is essentially a theoretical work atempting [sic] to explain the several important mechanical phenomena which are really the basis of utility of all polymers—such ideas as plasto-elastic behaviour, network structures in three dimensions, crystallization, creep, plasticization and solution, and ultimate tensile strength."

Paper trade journal, March 11, 1948, p.60. ⅛ col.

"The remarkable range of mechanical properties exhibited by high polymers permits them to be used as rubbers, plastics, textile fibers, films, etc. The author attempts to uncover the fundamental principles underlying the mechanical behavior of polymeric structures and to show how this behavior is correlated with the molecular structures involved. Among the principal subjects covered are: plastoelastic behavior of amorphous linear high polymers; three dimensional cross-linked polymers; crystallization of high polymers; plasticization and solution systems containing high polymers and materials of low molecular weight; and ultimate strength and related properties."

Anderson, Hamilton H., and others. Pharmacology and experimental therapeutics; a survey for 1941-1946. 368p. 1947. Univ. of California Press, Berkeley, Calif., $6.50.

American journal of pharmacy, Jan. 1948, p.33. ⅜ p.

"Represents a compilation of significant data in the field of pharamacology [sic] and experimental therapeutics over the period 1941-1946 . . . Not a text book in any sense of the word but a summary of the latest data combed from the extensive literature of medicine, biology, dentistry, pharmacy and pharmacology . . . Does not attempt to duplicate the material found in standard works on pharmacology but only to record recent research on the drugs covered. The antibiotics, antimalarials and sulfonamides are deliberately omitted since the authors felt that the several annotated bibliographies on these subjects were adequate . . . Pro-

vides much of interest to the research worker, teacher and graduate student and it serves a very useful purpose in any library. The compilers seem to have done a careful and thorough job in preparing their material. It is of such a caliber that one can readily endorse the continuation of this project during the years to come."

Baker, Robert H. Introduction to astronomy. Ed.3. 229p. 1947. Van Nostrand, New York, $3.

Science education, Feb. 1948, p.53. 10 l.

"Previous training in Physics and mathematics is not assumed. However, the material is authoritative and up-to-date . . . Will serve admirably as a beginning text in astronomy, as a text or reference for the astronomy phase of the physical science survey course, and as excellent reference for the secondary science teacher and the elementary science teacher." *C. M. P.*

Beatty, R. T. Radio data charts. Ed.4, revised by J. M. Sowerby. 93p. Iliffe, London, 7s. 6d. net.

Journal of scientific instruments and of physics in industry, March 1948, p.111. 11 l.

"This collection of forty-four nomograms is a standard work of reference for radio receiver designers—professional and amateur. It reduces the labour of calculation in upwards of forty routine design problems and obviates possibilities of error in the interpretation and application of formulae. The subjects covered range from the design of r.f. coils and transformers to the calculation of loudspeaker dividing networks and include problems relating to parallel-wire coaxial and quarter-wave-length transmission lines. Each chart is accompanied by an explanatory introduction and worked examples, and acts as a useful adjunct to the ordinary text-books on radio engineering."

Beaumont, R. A. Aero-engines for students; including gas turbines. Ed.2, revised and enlarged. 202p. Allen & Unwin, London, 12s. 6d.

Aeroplane, Jan. 16, 1948, p.87. ½ col.

"A thorough revision of the text and of the many diagrams and photographs, together with the addition of a chapter on aero gas-turbines, has brought the book fully up to date. It is simple and readable and . . . intended for those who already know the elementary principles of the internal-combustion engine and who wish to learn how these principles are applied to its most highly refined and developed form . . . Mr. Beaumont, who is a member of the staff of an aeronautical engineering college, knows his subject and how to make it interesting. Students and others should derive benefit from the lucid explanations his book contains." *R. H. S.*

Black, J. Introduction to aerodynamic compressibility. 122p. 1947. Bunhill Publications, Ltd., 12 Bloomsbury Sq., London, W.C.1, 18s. net.

Aeronautical engineering review, Feb. 1948, p.69. ¾ col.

"Prepared to present in convenient form the most important theoretical and experimental results that have been obtained in the study of the subject. Practicing engineers who are forced to deal with compressibility problems for the first time because of recent design trends will find this volume of the greatest value . . . Will enable the engineer actually engaged in compressibility flow problems to become fully acquainted with the existing knowledge of the subject. Engineering students will find the clear exposition helpful . . . There are over 50 footnote references to published papers and research reports."

Engineering, March 5, 1948, p.221. 1 col.

"In the space of less than a hundred pages, the author aims to cover the whole field of compressible flow, from the point of view of the designer and of the aerodynamic student, but, in fact, the book has little to offer to the former. Half of Chapter 6, which is the only chapter devoted to the application of compressible-flow theory to aircraft, deals with the simple Ackeret theory for two-dimensional supersonic flow; the remainder is inadequate and out of date. In the other chapters, there is undoubtedly much of value for the student, to whom the subject is new; but he would need to have a competent teacher at hand to clarify some theoretical aspects of the subject . . . For those whose work is not directly concerned with the more advanced aspects of the subject, the book provides a pleasantly written synopsis that will quickly convey the essential ideas. The figures are clear and the book is well printed; the Schlieren pictures of shock-wave patterns are particularly well reproduced."

Bower, F. O. Botany of the living plant. Ed.4. 700p. 1947. Macmillan, New York, 36s. net.

Nature, Jan. 31, 1948, p.153. 1 col.

"All teachers of botany will offer the heartiest welcome to this new edition, which will give the book a fresh lease of vigorous life. Among other noteworthy features which have been maintained is the unsurpassed exposition of the biological significance of the development of heterospory and the seed habit." *F. T. Brooks.*

Breed, Charles B., & Hosmer, G. L. Principles and practice of surveying. Ed.6, revised. v.2: Higher surveying. 674p. 1947. Wiley, New York.

Cornell engineer, March 1948, p.22. ⅓ col.

"Extensive revisions have been made to keep . . . [the book] up to date with current practice. The most thorough going changes are in the chapters on 'Photogrammetric Surveying' which were entirely rewritten and rearranged with a considerable improvement in presentation. The subject of photogrammetry is thus rather thoroughly covered and well treated with nearly one fourth of these tests devoted to this branch of surveying, which has become of great importance in recent years. The revision serves well to make the text suitable for courses in advanced surveying."

Bronwell, Arthur B., & Beam, Robert. Theory and application of microwaves. 470p. 1947. McGraw, New York, $6.

American scientist, Jan. 1948, p.32, 34. 12 l.

"For senior and first-year graduate students in electrical engineering. The subject matter falls into three general categories: '(1) fundamental electronic concepts and their application in the analysis of microwave tubes, (2) transmission lines and transmission-line networks, and (3) electromagnetic field equations and their use in the analysis of wave propagation, reflection phenomena, wave guides and radiating systems'."

Electrical world, March 27, 1948, p.154. 12 l.

"Significance of this book to engineers of a power persuasion is dual. First, an effort has been made to simplify the phenomena of ultra-high frequencies. Second, against the day when these frequencies may prove useful for relaying there should be a growing understanding of the principles involved as here set forth."

Proceedings of the I.R.E., April 1948, p.512. 1⅛ col.

"Most books have features that make them especially useful, and this book is no exception. Its twenty-one chapters are attractively arranged and may be said to offer some discussion of virtually every phase of microwave application. Much of the discussion is compact and well presented, particularly the material on conventional transmission lines, their equations, graphical solutions, and networks. Problems are included, though probably not nearly enough for teaching purposes. Many of the chapters have good summaries of the important relations developed in the chapter. Good diagrams and curves are used liberally, as are also photographs of actual tubes and apparatus. A good job is done in going just so far along highly mathematical lines." *Simon Ramo.*

Wireless world, April 1948, p.152. 1⅜ col.

"Not an elementary text and . . . presumably intended for the reader who has already had considerable acquaintance with electromagnetic theory . . . Whilst there is not a great deal to quarrel with in the actual treatment of the matters included in this book, in view of the title it may be said that it contains much that is superfluous, and also unfortunately, insufficient information relating to microwave technique. The authors excuse the omission of a discussion of some aspects of radio circuit theory on the grounds that 'there are a number of excellent textbooks dealing with such matters.' One is inclined to ask, therefore, why they have not shown the same sense of discrimination with respect to the rest of the material . . . Well produced, and liberally illustrated. The authors have justified their claim that: 'throughout the engineering point of view has been stressed, and that, wherever possible, the analytical results have been expressed in a form convenient for engineering use'." *J. A. S.*

Brues, Charles T. **Insects and human welfare.** Ed.2, revised. 154p. 1947. Harvard Univ. Press, Cambridge, Mass., $2.50.

Natural history, March 1948, p.141. ⅔ col.

"This revision . . . does much to elucidate the close and intricate relationship between man, his agricultural and forestation economies, and the ever-present insects that influence directly or indirectly his activities and livelihood . . . Designed with the purpose of making the public aware of the importance of entomology. Throughout there are concise discussions of the major problems that have confronted mankind and the manner in which he has met the challenges from the insect world . . . It is unfortunate that illustrations of at least the major insect offenders could not have been included." *Mont A. Cazier.*

Scientific monthly, May 1948, p.441. 1½ col.

"The reappearance of this 1920 book in a well-modernized revision makes available to the general reader a very thoughtful summary of the present stage in the battle between one species—man—and 800,000 other species—the insects. The struggle is analyzed on four fronts: Insects and the Public Health, Insects and the Food Supply, Forest Insects, and Household Insects . . . Interesting, informative, and thought-provoking without being technical. An index adds to the usability of the new edition." *Lorus J. Milne & Margery J. Milne.*

Bullens, Denison K., and others. **Steel and its heat treatment.** Ed.5. 3v. 1948. Wiley, New York.

v.1. Principles. 489p. $6.

v.2. Tools, processes, control. 293p. $4.

Materials & methods, March 1948, p.164. ⅔ col.

"Volume I deals with the definitions, terminology, and fundamental concepts necessary for discussion of heat treatment; with the limitations and uses of tests applied to evaluate suitability of steel for heat treatment, and suitability of the heat treated products for engineering use; and with the principles underlying the various types of heat treatment, whether of carbon or alloy steel. Volume II deals with applications of the principles and with the tools of heat treatment, such as furnaces, devices for local heating, salt baths, controlled atmospheres, cyaniding, carburizing and nitriding; quenching media; prevention of cracking and distortion; the processes used to put steel in proper condition for machining; the relation of heat treatment to welding; and the heat treatment of steel castings, malleable iron and cast iron. It is aimed to cover the practical application of the principles described in Volume I."

Product engineering, April 1948, p.192, 194. ⅘ col.

"A practical up-to-date treatise on steel that admirably serves the design engineer. Many parts of Vol I have the mechanical engineer's approach—'How Much Ductility Is Enough?'; effect of directional properties; conventional tests, including types of hardness testing and their correlation; stress raisers, factors in fatigue, design for limited life, local cold working; are all discussed in Chapter 6. And, incidentally, supported by a 5 page bibliography on these topics alone. Chapter 7 on impact testing is also valuable. Other useful topics in Vol I: Machinability, internal stress, 'How Not to Use S Curves,' stress relief annealing. Vol II is more of a metallurgist's or production man's book, although most of the topics provide useful background for the mechanical engineer. Some subjects are flame and induction hardening, nitriding, carburizing, controlled atmospheres, heating and cooling methods. Chapter 13 on the heat treatment of cast and malleable irons, Chapter 14 on graphite and steels, and Chapter 15 on heat treatment in relation to welding and machining are especially useful. Both volumes have many illustrations and tables, and contain excellent bibliographies to books, journals, and magazines at the end of each chapter."

Burk, Robert Emmett, & **Grummitt,** Oliver, ed. **Chemical architecture.** 202p. 1948. Interscience Publishers, New York, $4.50. (Frontiers in chemistry, v.5.)

Canadian chemistry and process industries, March 1948, p.248. ⅔ col.

"The contents are as follows: Applications of Molecular Geometry in the Field of Reaction Mechanism, by Hugh S. Taylor, Princeton University; Dipole Moment, Resonance and Molecular Structure, by Charles P. Smyth, Princeton

University; Structure of Coordination Compounds, by W. Conard Fernelius, Syracuse University; X-Ray Studies of Randomness in Various Materials, by B. E. Warren, Massachusetts Institute of Technology; Light Scattering in Polymer Solutions, by H. Mark, Polytechnic Institute of Brooklyn; The Nature of Inorganic Gels, by Miroslav W. Tamele, Shell Development Company, Emeryville, Calif."

Petroleum processing, March 1948, p.275. ¾ col.

"Deals with the molecular structure of things and its relationship to a number of important industrial type processes . . . The fifth volume in a series based on the Western Reserve University Frontiers in Chemistry lectures, which were inaugurated in 1942 and designed to help both graduate students and industrial chemists keep up to date. The present volume covers a group of six papers given by experts in their fields during the 1947 program."

Burn, John L. Recent advances in public health. 409p. 1947. Churchill, London, 25s.

Journal of the American Medical Association, Jan. 17, 1948, p.213. ⅓ col.

"Covers a wide set of subjects classified as recent advances in public health. Its contents satisfactorily cover the rapidly changing social scene and the effect on the public health. Individual, community and environmental health are covered with thoroughness and dispatch; to the American health officer, this book should prove interesting reading and a valuable asset in his daily duties . . . The briefness of some chapters . . . may be disappointing to American readers. The chapter on smokeless air should interest the health officers of communities where advocates of smoke control become unpopular with industry."

Cohen, Abraham. Time study and common sense. 112p. 1947. Macdonald & Evans, London, 10s. net.

Management review, April 1948, p.220. ⅝ col.

"No doubt about it, Mr. Cohen establishes himself as a critic of existing procedures. While reading this book, however, one wishes that he would offer effective substitutes or suggestions for that which he condemns . . . His criticism is thought-provoking and will no doubt lead to further consideration of the procedures advanced by the authors of the writings to which he refers. In a way, the book is unique in its approach to the subject of time standard determination. The author analyzes the faults which he believes to be inherent in many accepted procedures for recording and selecting elemental time values, the rating of operator performance, and application of fatigue allowances. Extensive quotations from recognized treatises on these subjects are used to illustrate the author's contentions that current practices are both illogical and inconsistent. He then winds up his critique by admitting that the techniques employed today are better than none at all . . . Recommended to all who are interested in a presentation of the weaknesses which are found in today's methods of setting production standards, though the reader may not agree with all that Mr. Cohen says." *G. J. Stegemerten.*

Mechanical world, March 12, 1948, p.296. ½ col.

"Mr. Cohen is one of those rare technicians who seek to build a bridge between theory and practice. As the title of his book suggests, his angle of approach is original and, though he advances no new theories, he does explain in simple terms the mysteries which all too often have surrounded time study. The publication of such a book at the present time is opportune in view of the widespread interest in economic incentives as the key to industrial recovery . . . Should be of considerable assistance to all those engaged on job evaluation as it proves that time study is not just a combination of the stop watch and slide rule, but must stand or fall on the inherent sense of judgment on the part of the observer." *A. J. S.*

Colvin, Fred H., & Stanley, F. A. Running a machine shop. Ed.2, revised. 521p. 1948. McGraw, New York, $4.25.

Factory management and maintenance, March 1948, p.256. ⅛ col.

"How to set up and equip a machine shop, how to plan work, how to inspect and control it, where economies may be made, how production may be improved, how to keep records, manage men—these are some of the problems discussed. Practices found to be effective for both large and small shops are reported, together with suggestions for increasing profits in every shop operation . . . Includes a 40-page supplement covering recently developed techniques, as well as important new standards and methods."

Mechanical world, March 12, 1948, p.296. 1⅓ col.

"Deals with the more comprehensive questions covering works layout, planning and equipment; methods of estimating, of production; administration and management. It is of necessity an omnibus book, with a great deal compressed into a small space, but it has been so well arranged, illustrated and indexed, that the many and various queries and problems which come up for solution daily in the machine shop can be quickly disposed of by reference to the appropriate sections . . . Both the established executive and the ambitious assistant will find help and stimulation from a study of this eminently practical volume compiled expressly for men of the machine shop by authors of recognised reputation in this field." *E. S.*

Comrie, L. J. Chambers's four-figure mathematical tables. 64p. 1947. Chambers, Edinburgh, 5s. net.

Mechanical world, March 5, 1948, p.269. ½ col.

"This book is a sign of the times. The old tables were simple and useful enough: these new ones are equally useful but they cater for that understanding and precision of calculation which is characteristic of present-day work, whether it be in mathematics, physics or engineering. Yet it cannot be said that the new tables are any the less simple than the old ones, for Dr. Comrie's undoubted art in the exposition of tabular matter has clearly been brought fully to bear upon the production of this work, and after reading the bare page-and-a-half of 'explanation' one has every confidence in using the tables, and very soon a warm familiarity with them . . . Without a doubt the whole production reaches the objective set for it, which is to raise the standard of the four-figure mathematical tables used in educational work and in industrial practice."

Darling, F. Fraser. Natural history in the highlands and islands. 303p. 1947.

Collins, London, 16s. net. (New naturalist series.)

Discovery, Feb. 1948, p.65. ⅔ col.

"The author has avoided the mistake of trying to say the last word on any one topic of the many he discusses. Throughout . . . his approach is a social one by which he tries to assess all the factors influencing the environment, and he shows how changes in husbandry and other factors have caused wide changes in the fauna and flora. He makes many suggestions for rehabilitation of the area and preservation of species in danger of extinction. The highlights of the book are those chapters dealing with subjects in which the author has done research. The sections on red deer, seals and sub-oceanic islands are most engrossing. While not reaching the completeness of these chapters the rest of the book is accurate and stimulating . . . Here is a book written by one who has lived with his subject and is in sympathy with it, and it should help immeasurably to achieve the aim of the series 'to interest the general reader in the wild life of Britain by recapturing their inquiring spirit of the old naturalists'." *J. F.*

Nature, March 27, 1948, p.457. 1 col.

"The first three chapters deal with geology, climate, relief and scenery, the other nine with human and animal factors: forest, moor and farm; hill summits; shore, sea, loch and shallow seas; islands; fresh-waters; red deer; grey seal; and reflexions on main issues. There follow a long bibliography, index and fifteen distribution maps by Dr. James Fisher . . . Despite its shortcomings of detail the book is a gallant effort, much needed, stimulating and highly successful." *A. D. Peacock.*

Daubenmire, Rexford F. Plants and environment; a textbook of plant autecology. 424p. 1947. Wiley, New York, $4.50.

Scientific American, March 1948, p.140. ⅙ col.

"Serious, studious readers willing to dig will get from this (or any) textbook of autecology (study of interrelations between plants and environment, subdivision of ecology) an appreciation of plant life utterly incomprehensible to a person not thus trained. Autecology is a study of those phases of geology, soils, climatology, zoology, chemistry, and physics relating to plant welfare. This is a young science making rapid headway today, though relatively few are aware it exists or of its deeply significant content." *A. G. I.*

Soil science, April 1948, p.354. 10 l.

"Designed for textbook use, this book on plant ecology is an outgrowth of notes that were employed in teaching students in botany, forest management, range management, and agriculture . . . Deals with those phases of geology, soils, climatology, and biology that affect the distribution and well-being of living things. Consideration is also given to the fire factor, the environmental complex, and adaptation and evolution. The material is interestingly and attractively developed. Each chapter is introduced with a detailed outline. Appended to the book are 612 references to literature cited . . . Should be especially interesting to soil scientists in that it brings to bear a point of view that merits more consideration than is often given to it."

Desch, Harold E. Timber; its structure and properties. Ed.2. 299p. 1947. Macmillan, New York, $5.

Southern lumberman, Jan. 15, 1948, p.35. ⅛ col.

"Mr. Desch covers all the advancements in the use of wood brought about by the war, so that he has written an up-to-date book which should appeal to all lumbermen. He deals first with the physical structure and chemical composition of wood and proceeds from there to the manufacture and use. His concise, not-too-technical language should appeal to all readers, the layman as well as the engineer."

Wood, March 1948, p.81. ⅓ col.

"Well written and contains fifty-five plates in addition to forty-five text figures. The author has obviously drawn on many sources of information at home and abroad and equally clearly has made considerable use of the Forest Products Research Laboratory at Princes Risborough, for illustrations particularly . . . Cannot fail to be extremely useful to students, and particularly third-year students, attending the various courses in wood technology now running in London and many provincial towns." *H. C.*

Douglass, Raymond D., & Adams, D. P. Elements of nomography. 209p. 1947. McGraw, New York, $3.50.

Chemical engineering, April 1948, p.285. ⅝ col. including another review and illustrations.

"This book, plus a lot of work, will produce a master nomographer. It is the product of two M.I.T. professors (mathematics and graphics) and it is thorough. The authors made it that way, they say, for those who find it necessary to study by themselves. It's a textbook with exercises. It's complete, starting with definitions and winding up with compound diagrams. It features study, understanding, creation and use—with accent on understanding. Two important features are systematic adjustment of scale measurement to base lines and the regular use of prepared forms for standardizing the attack on problems." *L. B. Pope.*

Electrical world, April 10, 1948, p.190. ⅙ col.

"Gratifying effort has been made by these authors to break the drafting of the nomographic chart into consecutive stages, each isolated from the ensuing. The procedure should facilitate the novice in framing practical charts as well as choosing the most practicable type. Transformation and modifications of scale and displacement are made clear. Slant line, hexagonal, circular, compound and composite forms are treated after the simpler alignment forms have been developed. The book does not aim to present a collection of worked-out charts for reference."

Engineering news-record, April 1, 1948, p.95. 12 l.

"Deals with the preparation and use of alignment charts, presenting seven elementary types. A feature is the inclusion of the circular nomograph as a separate entity. The subject is developed from the viewpoint that each type of chart considered solves a certain type of equation, as compared with the method of using the general theory of nomography to find a chart for any given equation."

Factory management and maintenance, March 1948, p.256. 10 l.

"The term 'nomography,' from 'nomos,' Greek for law, refers to graphical presentation of mathematical laws of relationships. This book deals with the study, understanding, creation, and practical use of seven elementary types of

the alignment chart. Practical aids to the completion of theoretical solutions and drafting of charts are developed."

Erskine, Arthur W. Practical x-ray treatment. Ed.3. 155p. 1947. Bruce, St. Paul, $4.50.

Journal of the American Medical Association, Jan. 24, 1948, p.287. ⅛ col.

"The pleasure of reading a book such as has been prepared by Dr. Arthur W. Erskine has been renewed with each of the three editions; the book may be regarded as essential for the library of every radiologist. Eight chapters concern apparatus, measuring instruments, factors affecting skin dosage, factors affecting the depth-dose percentage, standard technics, scattering and distribution, determination of the skin dose, effects of roentgen rays on tissue. Five chapters are on methods of treatment of malignant and noncancerous conditions. From the wealth of the author's experience he has provided for a therapeutic radiologist an excellent discussion of the various factors concerned with roentgen treatment, the observation of which would lead to a considerable elevation of the standard of roentgen therapy throughout the country."

Escritt, L. B. Sewerage design and specifications. 293p. Contractors Record & Municipal Engineering, London.

Sewage works engineering, March 1948, p.177. ⅓ col.

"Covers English practice in the design and preparation of specifications for sewers, pumping stations and sewer outfall lines. Mr. Escritt . . . has clearly explained the main principles of what is called 'sewerage' in English practice, in a manner which should make the subject clear to students of this phase of sanitary engineering . . . Replete with illustrations of English practice, figures, tables and formulas . . . Should be interesting to American engineers, to educators and students."

Faulkner, Edward H. A second look. 193p. 1947. Univ. of Oklahoma Press, Faculty Exchange, Norman, Okla., $3.

Soil science, Feb. 1948, p.207. 11 l.

"Designed to answer the many questions raised by readers of *Plowman's Folly,* the original contribution of this author . . . The emphasis seems to have been changed somewhat from the disadvantages of the moldboard plow to the advantages of the disc or similar implement for incorporating organic matter into the surface soil rather than plowing it under. Similarly, advocacy of omission of fertilizers as being unnecessary is now more largely confined to those carrying nitrogen. Faulkner's concepts are closely allied with those of Sir Albert Howard, Lady Eve Balfour, Louis Bromfield, and J. I. Rodale, all of whom believe that more soil organic matter and better use of it provide the remedy for most diseases affecting plants, animals, and man."

Findlay, Alexander. Chemistry in the service of man. Ed.7. 390p. 1947. Longmans, New York, $3.

Industrial chemist and chemical manufacturer, Feb. 1948, p.124. ⅓ col.

"In the new edition '. . . it has been sought to give some account of the advances which have been made in elucidating the constitution of the atom and in opening up the prospect of the beneficent utilisation of atomic energy, as well as of the recent achievements of chemists in other fields of social and industrial importance: light alloys, plastics, vitamins, hormones, etc.' Thus fortified with material describing recent advances, the seventh edition, which includes 45 illustrations and numerous diagrams, provides a broad and interesting general survey of the applications of chemistry."

Foyster, J. R. Modern mechanical saw practice. 274p. 1948. Lockwood, London, 18s. net.

Mechanical world, March 5, 1948, p.267. 1⅓ col.

"An important side of modern wood-working practice is brought right up-to-date by the technique expounded in this work. The author is a lecturer on woodwork, besides being a practical man of wide experience on mechanical sawing and sawmill methods . . . This work may well be taken as the standard treatise on modern saw practice. Findings from the experiments carried out by the author will also be welcomed by the makers of saws and of woodworking machinery, as they clear up many points previously in dispute, and will probably have some bearing upon later machine design. All sawmill executives, saw doctors and wood machinists would be well-advised to have a copy of this book by them for reference." *E. S.*

Wood, March 1948, p.82. ½ col.

"After carefully reading this book I can heartily endorse the author's hope that it will interest not only sawyers and saw-doctors but also the owners of machines, saw manufacturers, designers and machine manufacturers, and research workers . . . Will do much to stimulate interest in the more efficient sawing of timbers . . . Well illustrated and line drawings help to make it fully informative . . . A really helpful and interesting publication." *H. H. F.*

Francis, Wilfred. Boiler house and power station chemistry. Ed.2, enlarged. 274p. 1947. E. Arnold, London, 21s. net.

Transactions of the Institute of Marine Engineers, Feb. 1948, p.40. ¼ col.

"This work needs no introduction as it is well-known among boiler house and power station combustion engineers and chemists. This edition improves an already good book . . . Enlarged to include more material on the constitution of coal, coal cleaning, orthodox methods of analysis capable of being carried out at higher speed and with greater certainty than by standard methods and accelerated methods of proximate and ultimate analysis . . . The author capably deals with his subject, and the book forms a valuable reference in all the matters with which it deals."

Frey, Albert Wesley. Advertising. 746p. 1947. Ronald, New York, $5.

Editor & publisher, March 13, 1948, p.68. 1½ col.

"Of . . . [the] 30 chapters and 120 illustrations, those particularly up-to-date and informative are on merchandising from the standpoint of product and price, packaging and branding; on advertising typography; on layout; on direct-mail, point-of-purchase and motion-picture advertising; on outdoor and transportation advertising, and on measuring the market. A good chapter on newspaper advertising is adequate for orienting college students or new executives . . . Comprehensiveness and up-to-dateness in one volume are distinct contributions in Pro-

fessor Frey's new book. The work is thoroughly teachable for classes and thoroughly briefing for executives who deal with advertising administratively."

Furnas, Clifford C., ed. Research in industry. 574p. 1948. Van Nostrand, New York, $6.50.

Chemical engineering, April 1948, p.294, 296. 1 col.

"This book is bigger than the sum of its parts. It is bigger than any individual or group that contributed to it. It is as big and all-pervading as the subject it so ably presents. In short, it is a book industry has long been waiting for; a book that can have a great influence in advancing science and technology on many fronts . . . Dr. Furnas has made no effort to put his authors in an editorial strait-jacket. He realized how much might be lost in any rewriting to get uniform style and presentation. He even permits certain mild differences of opinion among his authors and a little overlapping in spots—just for emphasis. But the end result is a most readable and entertaining book—one that will be read and reread many times from cover to cover." *S. D. Kirkpatrick.*

Paper trade journal, April 8, 1948, p.60. ⅝ col.

"Among the subjects covered are: philosophy and objectives of research in industry; the research laboratory as an operation department; development; the research director's job; organization charts in theory and practice; the research program; selecting projects for research; the research budget; research reports; characteristics of the research man and the research atmosphere; qualifications, training, aptitudes and attitudes of industrial research personnel; procurement and selection of research personnel, salary policy; personnel policies and personality problems; professional growth of the research man; the location, design and construction of a modern research laboratory; the tools of research instruments and supplies; by-products of research; evaluating the results of research; pattern of collaboration between the research department and the patent department; licences, royalties and patent pools; patent agreements and employment contracts; relation with the public, government, educational system, and other firms and industry."

Petroleum processing, April 1948, p.379. ⅝ col.

"Almost a handbook or manual for the organization and management of scientific work by industrial organizations . . . Not a recipe book for management, nor . . . a collection of *do's* and *don't's.* Rather it is a guide for those who are or expect to be active in the planning and administration of research organizations and programs . . . All the contributors are representatives of the member companies of Industrial Research Institute, Inc., which group fostered the publication of this book."

Geyer, E. W., & Bruges, E. A. Tables of properties of gases. 102p. 1948. Longmans, New York, 12s. 6d. net.

Chemical trade journal and chemical engineer, March 12, 1948, p.276. ⅛ col.

"The object of this book is to list concisely for the benefit of engineers the most recent data obtained by physicists on the thermodynamical properties of gases . . . The properties listed include entropy, internal energy and total heat for a number of the most important gases as well as equilibrium constants and heats of reaction for certain of the more commonly used hydrocarbons. The values are listed in tabular form at intervals of 100° F. and, to facilitate interpolation, differences are also tabulated. The early part of the work is devoted to an explanation of the principles on which the tables are based, and is noteworthy for a very full description of the v'ant Hoff equilibrium box. Worked examples, including problems in dissociation, have been added."

Giddens, Paul H., comp. & ed. Pennsylvania petroleum, 1750-1872; a documentary history. 420p. Pennsylvania Historical and Museum Commission and Drake Well Memorial Park, Titusville, Pa.

Oil and gas journal, March 25, 1948, p.193. ¼ col.

"A compilation of original documents drawn from a variety of sources—letters, newspapers, out-of-print books, oil-company records, reminiscences, etc. Many of the documents included have not been hitherto published. Other portions of the material have been published but lie buried in inaccessible newspaper files, in old books now out of print or scarce, and in scattered manuscripts. The material has to a large extent been drawn from the collection in the library of the Drake Museum."

Oil, paint and drug reporter, March 29, 1948, p.51. ⅛ col.

"The title of this book is enough to guarantee its interest for anybody who ever gives thought to the small beginnings of the gigantic petroleum industry of the United States. Whosoever is tempted by the title to take up this book will not be disappointed . . . This readable history of Pennsylvania oil is a compilation of 172 short items . . . They comprise everything from engineering to economics, from ideals to investments, from popular songs to practical jokes, from war to weddings. They are an excellent cross-section of the everyday life of everyday people; hence they are very interesting in a variety of ways. So are the twenty pictures with which the text is complemented. Professor Giddens and the Pennsylvania commission have provided a book for reading."

Producers monthly, Jan. 1948, p.12. ½ col.

"Divided into five main divisions. Part I relates to the history of petroleum prior to 1859. Part II brings together all the known accounts of those who had anything to do with the organization of the first oil company and the drilling of the Drake well. Part III focuses attention upon a wide variety of records bearing upon Drake and the Drake well. Part IV relates to Drake after 1863. Part V contains many contemporary accounts of the oil region from 1859-1872—of the oil excitement at Titusville, the Rouse fire, marketing oil in Europe, the oil trade in Pittsburgh, and many other interesting facts. There are twenty illustrations . . . many of which have been drawn from the famous Mather collection in the Drake Museum. Especially interesting is a photograph of a document from the John E. Reynolds Collection, Meadville, showing the price of oil in 1797."

Goodman, Clark D., ed. Science and engineering of nuclear power. 500p. 1947. Addison-Wesley Press, Cambridge, Mass., $7.50.

Aero digest, April 1948, p.78. ⅛ col.

"Engineers interested in industrial applica-

tions of nuclear energy will find this test [sic] invaluable because the fundamentals of chain-reacting systems are set forth in terms understandable to the non-specialist. The treatment of nuclear-pile design and its practical application, with background material necessary for its understanding, is both technical and authoritative. It is meant—not for those without mathematical knowledge, but for professional men who expect to become 'nuclear engineers'."

Electrical engineering, Feb. 1948, p.214. 12 l.

"Covers primarily the basic treatment of nuclear pile design and its practical application, in addition to background material necessary for their understanding. Allied subjects such as control, monitoring, chemistry of heavy elements, and fission products also are treated. Included is the Segré isotope chart which contains a fairly complete summary of some of the more important properties of nucleuses, both stable and radioactive."

Electronic industries & electronic instrumentation, March 1948, p.28. 8 l.

"Covers basic nuclear pile design, its practical application, in addition to and the background material necessary for their understanding. Allied subjects such as control, monitoring, chemistry of heavy elements, and fission products are also treated."

Gottlieb, Bernhard. Dental caries; its etiology, pathology, clinical aspects and prophylaxis. 262p. 1947. Lea, Philadelphia, $10.

Journal of the American Medical Association, Jan. 31, 1948, p.357. ⅓ col.

"This monograph on dental caries is based on the special pathology of the tissues concerned . . . The text includes an extensive study of the development and structure of the enamel and the problems of the formation of secondary dentine. The part which is devoted to prophylaxis of caries and the discussion about fluorine deserve study by both dentists and physicians. Illustrations are magnificent and establish Gottlieb as one of the great dental technicians of all time."

Gray, George W. Frontiers of flight. 362p. 1948. Knopf, New York, $6.

American aviation, March 1, 1948, p.38. ¼ col.

"Traces the growth and achievements of NACA from its inception in 1915 through the still-continuing experiments in transonic and supersonic flight. The writer not only describes technical developments in clear detail, but also tells how they work and why, discussing such diverse matters as the influence of shape on wings and bodies, the devices used to improve engine power and propeller thrust, the measures to safeguard stability and control, and apparatus to protect a plane against icing and other hazards. In addition to 12 pages of photographs, the book is illustrated with numerous drawings and diagrams."

Green, Roland. Wing-tips; the identification of birds in flight. 64p. 1948. Macmillan, New York, $1.75.

Natural history, March 1948, p.140. ⅝ col.

"In the author's words this little volume is intended for those amateur bird lovers who 'often look with wonder at birds in flight and wish to know more of how they fly and why their flight differs so much with different species' . . . The text occasionally belies the theme of the book, for sometimes more is said of color pattern than of flight . . . After reading *Wing-Tips,* even the experienced student of birds will observe their flight with greater insight and appreciation. Although written in England, more than half of the birds mentioned also occur in America. Many bird lovers will consider the illustrations alone worth more than the modest cost of this book." *Dean Amadon.*

Nature magazine, April 1948, p.220. 9 l.

"Intended for the average bird lover and . . . designed, as the title indicates, to aid in the identification of birds on the wing. It is the work of a British bird artist and ornithologist and is about British birds. It is, therefore, only partly applicable to our American avifauna, but the book is of interest, nevertheless, to all bird students."

Grummitt, Oliver. See Burk, Robert Emmett, & Grummitt, Oliver, ed.

Harry, Ralph G. Modern cosmetology. Ed.3, revised. 515p. 1947. Chemical Pub., Brooklyn, $12.

American journal of pharmacy, Jan. 1948, p.33. ½ p.

"Presents the subject of cosmetics in a very broad way and it is unique in that every effort is made to correlate the subject of dermatology with the art and science of cosmetic formulation and manufacture. The physiology and anatomy of the skin is so discussed with photographs and illustrations that the cosmetic worker will gain a better understanding of just what can be accomplished with a cosmetic product and its limitations. The English origin of the book may cause some slight objection to its use by those in the United States but trade names are used only infrequently so that one can identify ingredients without difficulty . . . This reviewer can recommend the book as a useful reference but it is somewhat high in price in spite of its value."

Harvard University — Radio Research Laboratory. See United States — Radio Research Laboratory, Harvard University.

Horton, Ralph E. See Marcus, Abraham, & Marcus, William.

Hunter, L. E. Concrete waterproofing. New edition. 127p. Pitman, London, 12s. 6d. net.

Cement, lime and gravel, Feb. 1948, p.322. ½ col.

"The author included . . . general waterproofing methods, together with a short outline of the nature and composition of the individual types of waterproofers, without of course, going into the details of the composition and manufacture of the different compounds on the market. This would not be possible as most of these are offered under trade names and are of a secret formula. Many of them, however, conform generally to the basic analysis shown in this book, with probable slight variations in the proportion of constituents. Mr. Hunter uses over one hundred drawings and photographs to emphasize his points."

Concrete and constructional engineering, March 1948, p.96. ¾ col.

"The first three short chapters . . . describe the use and nature of chemicals recommended for improving concrete, with test data mainly of American origin. The other chapters deal with joints, renderings, gunite, protective linings,

repair, and so on. About one-third of the book and 13 out of 21 bibliographical references relate to asphalt, and most of the photographs appear to have been supplied by the makers of waterproofing chemicals and linings."

Husband, Joseph, & Harby, William. Structural engineering. Ed.5, revised and enlarged. 591p. 1947. Longmans, New York, 21s. net.

Mechanical world, March 5, 1948, p.269. ½ col.

"This well-known book . . . is a useful guide to the principles employed in the design of steel, masonry and plain and reinforced-concrete structures . . . The approach is essentially practical in character; graphical constructions are employed wherever possible . . . and the book makes few demands on the reader in respect of mathematics . . . Will appeal especially to those readers who, while being interested in structural engineering, have not had a formal training in mathematics. Nevertheless, as the authors claim in their preface, this book will also be of interest to those preparing for examinations—although it must be added that at any rate in respect to examinations for university degrees in engineering, it covers only a part of the ground which has to be covered by the candidate." *L. A. B.*

Hussey, Russell C. Historical geology. Ed.2, revised. 465p. 1947. McGraw, New York, $3.75.

American scientist, Jan. 1948, p.187. 12 l.

"Professor Hussey has omitted the tables of Paleozoic formations and has replaced several of the inaccurate drawings of animals and plants by very much more satisfactory illustrative material. Minor changes in the text and an improved format contribute also to the greater usefulness of the book for introductory courses in the subject."

Ivey, Paul W. Successful salesmanship. Ed.2. 567p. 1947. Prentice-Hall, New York, $5.35 (Schools, $4).

American business, Feb. 1948, p.66. ⅓ col.

"Dr. Ivey has been a lecturer on selling for many years and his long experience keeps out some of the usual cliches so often found in books on selling. It covers the entire range of selling, retail, specialty, wholesale, service, insurance. The book's 567 pages may be rather formidable to some students of salesmanship, but it is a valuable addition to any library on the subject and a priceless gem to any man who must teach or lecture on the subject."

Sales management, March 1, 1948, p.120. ¼ col.

"[The author] is The University of Southern California's Professor of Marketing and a noted sales counselor. The selling principles discussed in his book have been successfully used by him in numerous specialized sales training courses for various types of sales organizations—manufacturers', wholesalers', and retailers'—during the past 30 years . . . Divided . . . into more than three-dozen chapters, covering such subjects as the essence of salesmanship, how to organize your mind for selling, how to develop a sales personality, planning the sale, closing the sale."

Jackson, Percy G. Boiler feed water. Ed.4, revised. 132p. 1947. C. Griffin, London, 8s. 6d. net.

Mechanical world, March 5, 1948, p.267. 1 col.

"It is the author's contention, firstly that to the boiler operator, definite opinions based on extensive experience are of more practical use than discussions of varied views which must leave the inexpert reader perplexed, and secondly that the operator is rather more concerned with the elimination or mitigation of undesirable results than with highly theoretical expositions regarding their causes. The continued success of the book . . . is doubtless due largely to this method of approach, and the fourth edition will be welcomed, particularly by those who have neither the time nor the necessary chemical knowledge to make a special study of the subject . . . The arrangement of the material follows that adopted in the previous editions, and it is well written, adequately illustrated, and excellently produced; it will deservedly continue to be popular among those who control, or who assist in the control of steam boiler plant." *W. W.*

Steam engineer, April 1948, p.253. ⅓ col.

"The chapters deal with corrosion, softening, selection of softening plant, priming, scale grease and overheating, prevention of scale and caustic embrittlement, boiler control, methods of analysis, sampling and solutions, from which it will be seen the main aspects of the subject are considered."

Jeans, P. C., & Marriott, W. M. Infant nutrition. Ed.4, revised. 495p. 1947. Mosby, St. Louis, $6.50.

Hygeia, April 1948, p.300. 1 col.

"Thoroughly revised and many sections rewritten, especially in relation to Development, Minerals, Vitamins and Infant Diseases. New illustrations have appeared especially in the chapter on technics; there are thirty-six illustrations in all. The purpose of the book remains the same, namely to bring together such facts as have a practical bearing on infant nutrition and to present them in such a way as to make them useful to the practitioner and student. This edition . . . is probably the most modern and up to date version of the subject, and is used as a textbook in many medical schools and teaching institutions throughout the country." *Joseph K. Calvin.*

Johnson, Vance. Heaven's tableland. 288p. 1947. Farrar, Straus, New York, $3.

Soil conservation, April 1948, p.206. 1½ col.

"Should be read by all prospective land purchasers, newscomers, and would-be farmers in the southern Great Plains . . . Should also be interesting to the businessmen, farmers, ranchers, and others who now live there—especially to those who expect to continue to live there . . . Will be interesting to those who lived in western Kansas, eastern Colorado, eastern New Mexico, or western Texas or Oklahoma at any time during the past 70 years . . . Should be required reading for all who are interested in soil conservation or the continued productivity of the land and the prosperity of the Plains . . . Well organized, readable, and probably the most interesting book ever written about the 'dust bowl.' It is not limited to a discussion of the dust bowl of the thirties; but deals with all phases of Plains settlement and development, including droughts, dust storms, and blizzards. It even includes information about the prehistoric agriculture of the Indians of the region. You will not lay this book down, once started." *Tom Dale.*

Jones, Harold Spencer-. See **Spencer-Jones,** Harold.

Kells, Lyman M. Elementary differential equations. Ed.3, revised. 312p. 1947. McGraw, New York, $3.

Product engineering, March 1948, p.184. ⅛ col.

"Fundamental types of differential equations are presented with illustrative examples and numerous exercises. An illustrated geometrical discussion of solutions of differential equations is followed by a statement of simplified existence theorems. These theorems are later presented in more comprehensive form and illustrated with examples and comments to facilitate a detailed understanding . . . A better balance has been attempted by introducing theoretical discussions and expanded treatments. Practically every article of the book has been revised to give maximum returns for time spent in study. Operators have been given more emphasis. Answers to exercises presented in the text are given in the back of the book."

King, Horace W., and others. Hydraulics. Ed.5, revised and enlarged. 351p. 1948. Wiley, New York, $4.

Aero digest, April 1948, p.78. ⅛ col.

"The revisions and additions included in this text on the fundamental principles of hydraulics and their application to engineering have been introduced to make the new . . . edition more effective for both teacher and student. There are new problems illustrating applications of basic theory to certain engineering problems not previously covered. The text has been expanded to include new developments in theory and practice. Changes in wording clarify certain explanations. New text material has been introduced on the variation of hydrostatic pressure with altitude, and on certain aspects of fluid flow."

Heating and ventilating, March 1948, p.121. ½ col.

"Originally designed as a text for those taking beginning courses in the subject of hydraulics, and also for those who are interested in acquiring the fundamentals of this subject . . . The authors have made revisions to improve the clarity of the text and to add problems better to illustrate applications of basic theory. The text has also been expanded to include new developments in theory and practice. Some 500 problems are included to bring out a clearer understanding of principles and information in the various chapters . . . Divided into 10 chapters as follows: Fundamental principles of fluids; principles of hydrostatic pressure; hydrostatic pressure on surfaces; relative equilibrium of liquids; fundamentals of fluid flow; orifices, tubes and weirs; pipes, open channels, hydrodynamics; hydraulic similitude and dimensional analysis."

Kitchen, L. D. Bus operation. 164p. 1947. Iliffe, London, 10s. 6d.

Automobile engineer, Feb. 1948, p.62. ⅝ col.

"Based on the 'Students' Corner' series of articles that have appeared in *Bus & Coach.* Revisions and additions have been made by the students themselves and the author who is assistant editor of both *Bus & Coach* and *Motor Transport* . . . Will prove valuable to those in executive positions in road passenger transport companies, and it is also intended for students preparing for the Royal Society of Arts diploma course in road transport or the more advanced examination of the Institute of Transport."

Kowalke, Otto L. Fundamentals in chemical process calculations. 158p. 1947. Macmillan, New York, $2.80.

Chemical and engineering news, April 12, 1948, p.1106. ⅓ col.

"A beginning textbook for chemical engineers designed to indoctrinate sophomores in simple chemical process calculations. In particular, an attempt is made to bridge the gap between calculations in general chemistry and calculations on a commercial scale with impure materials . . . On the whole, the book impresses the reviewer as a satisfactory beginning textbook in industrial stoichiometry, but it appears almost too elementary in its treatment of each subject. Within this limitation the book is quite readable and clearly presented." *Carl C. Monrad.*

Chemical engineering, April 1948, p.300, 302. ⅗ col.

"This book is too brief and fragmentary to be of value to the engineer or chemist already in industry. In the reviewer's opinion it would be helpful practical material to accompany a freshman chemistry course for engineers." *Kenneth A. Kobe.*

Paper trade journal, Feb. 5, 1948, p.57. 9 l.

"This very useful book is essentially a manual prepared for students of chemical engineering to show the industrial applications of the elementary principles of industrial chemistry and chemical engineering. Among the subjects covered are: density, pressure and its measurement, molal units, pressure-volume-temperature relations of gases, partial pressure, material accounts, combustion calculations, and heat losses in products of combustion."

Krynine, Dimitri P. Soil mechanics; its principles and structural applications. Ed.2. 510p. 1947. McGraw, New York, $5.50.

Mines magazine, Feb. 1948, p.38. ⅛ col.

"Presents the principles used in the design, construction, and maintenance of foundations of structures and of structures made of earth materials. Engineering applications of these principles are discussed, field and laboratory soil investigations are described, and the settlement of structures, its causes, prevention, and damage are considered . . . Includes two chapters on highway and runway subgrades, and incorporates the theory of the transfer of pressures by shearing stresses so as to establish an analogy between the study of tunnels and of retaining walls."

Lane, Ferdinand C. The world's great lakes. 254p. 1948. Doubleday, New York, $3.50.

Frontiers, April 1948, p.122. 1 col.

"Describes, locates, and tells the history and significance of the great lakes of the world. It covers forty-two of them, using the area of 1,400 square miles as the measuring stick. Dr. Lane classifies them; he gives their global distribution; he accounts for them, whether by natural depressions, erosion basins, volcanic action or meteors. He tells how the depressions come to be filled with water and whether the water level is rising or falling and why. He has chapters on the glorious, unbelievable lakes of Africa; the mysterious, alluring lakes of North America; the Asian, the South American,

the Australian lakes. They are all there with a few well-drawn, easy-to-read maps to help out. If that were all, this would be just another good reference book, a sort of up-to-date check list of the lakes. But the author raises the question of whether or not we are drying up. He asks, are we going to have a water famine? His comments on that make the book important, different . . . Recommended reading. It is simplified geology without technical terms; it is history; and it is a firm and not gentle warning for city planners, manufacturers, farmers and a lot of other people who turn on spigots expecting an instantaneous flow." *McCready Huston.*

Larkin, Edgar J. Elements of workshop training; a textbook for works apprentices. Ed.2. 256p. 1947. Pitman, London, 15s. net.

Transactions of the Institute of Marine Engineers, Feb. 1948, p.40. ½ col.

"The aim of this book is to create interest and impart useful knowledge in the fundamental principles associated with the engineering workshop and to encourage a thirst for knowledge among engineering pupils and apprentices. To this end it is divided into two sections, Part I dealing with Science Applied to the Workshop and Part II Workshop Theory and Practice . . . Altogether, the book should prove most useful to junior apprentices by affording them an introduction to many aspects of workshop training in a manner which is devoid of complicated detail, and which, compared with the old method of learning almost entirely by experience, should save time in the workshops. It is the reviewer's opinion that the instructional value of the book would have been considerably increased if the author had included, at the end of each chapter, his recommendation as to further reading on the subject that the student might pursue."

Levens, Alexander S. Nomography. 176p. 1948. Wiley, New York, $3.

Chemical engineering, April 1948. p.285. ⅓ col. including another review and illustrations.

"[The author] starts with cartesian coordinate representation and functional scales. He discusses seven equation types. His usual method is to cover theory, give directions, work out a few examples, then present several exercises. A chapter on miscellaneous forms shows how nomographs may be combined to solve equations with as many as six variables. The book ends with a discussion of determinants and their use in chart design. There is evidence that this book was not planned for self instruction." *L. B. Pope.*

Electrical world, Feb. 14, 1948, p.172, 174. ½ col.

"Technique of designing nomograms is, in this book, based on algebra and geometry with secondary reliance on the determinant procedure emphasized in many other books on the subject. Further than that, the treatment moves consistently and lucidly from the simplest examples after showing the limitations of the Cartesian plots. In addition to the numerous nomograms developed in full detail, there are 124 exercises for the addict to develop for himself. The appendix presents 29 working nomograms well chosen from the fields of mechanical, structural, hydraulic, pneumatic, electrical, and statistical engineering."

Military engineer, April 1948, p.198. ⅔ col.

"Intended to provide a good working knowledge of the fundamental principles in mathematical theory and design of alignment charts . . . The book is easily read and step-by-step procedure is given for many different functions. An appendix gives twenty-nine examples of alignment charts useful in engineering, production, business, and statistics. A bibliography is included, together with a comprehensive index. Most of the text is composed of well worked-out examples . . . A useful book on a useful subject that merits serious consideration by the engineer. Not only is a careful theoretical procedure emphasized, but many short cuts are covered clearly."

South African mining and engineering journal, Feb. 21, 1948, p.677. ⅓ col.

"A very readable book dealing with the construction of nomograms. An introductory chapter on charts is followed by detailed instructions and examples on the formation of functional scales necessary in the design of alignment charts. Then 11 chapters give the practical design of alignment charts for the various types of mathematical equations, with examples and exercises applied to hydraulics, strength of materials, mechanical, civil, electrical, aeronautical, chemical and statistical problems."

Macbeth, Colin. Rubber in textile factories. 135p. 1948. British Rubber Development Board, Market Bldgs., Mark Lane, London, E.C.3.

Chemical products and the chemical news, Jan.-Feb. 1948, p.34. ½ col.

"Mr. Colin Macbeth, is a well-known rubber authority and he has gathered together most of the known uses of rubber in the textile industry—one cannot say *all* of the uses, for new uses continue to be found and will continue to be found as research progresses . . . The book, which is profusely illustrated and well produced, serves an excellent purpose and it will be eagerly read by all connected with the textile industry, and it will be read with profit." *J. L.*

Machinery (London), March 25, 1948, p.414. 7 l.

"This informative book . . . serves to indicate the extent of the field of application of rubber in the textile industry. There are chapters on power transmission and the various types of belts, after which more specialized applications are considered. The final chapter is concerned with the use of composite rubber-metal units as produced by the bonding process."

Rubber age, April 1948, p.100. ⅓ col.

"Deals with power transmission for the most part. Data is [sic] furnished on solid woven cord constructed and accessory belts, as well as V-belt drives and vulcanized joints for belts. Useful points on belting installations and on their proper use, as well as hints on the selection and settling of V-drive details, are included. One chapter discusses the advantages offered by rubber-to-metal items as anti-vibration agents for looms, etc., and includes suggestions on how other such items could be utilized. Numerous illustrations are used in the handbook."

Textile world, April 1948, p.268. 9 l.

"Of the eleven chapters, six are devoted to rubber in power transmission with much practical data on rubber belts. The other five chapters cover rubber in the weave room, in the finishing plant, in yarn handling, for apparel and utensils, and in the new form of rubber-

bonded metal, particularly for vibration absorption."

Maginley, C. J. Historic models of early America and how to make them. 156p. 1947. Harcourt, New York, $2.50.

Popular homecraft, Jan.-Feb. 1948, p.151. ¼ col.

"The ever popular articles of Early American life are continually interesting to the woodworker, especially when presented in such an appealing yet complete manner as in this book . . . There are many items which will appeal to the average woodworker, such as a wool wheel, Early American cradle, water wheel, butter churn, etc. After a brief historical sketch of the object specifications for each part of the model are given with working diagrams and simple directions for putting them together . . . This handsomely bound book not only will add to a hobbyist's collection in content, but makes a nice addition to the library."

Marcus, Abraham, & Marcus, William. Elements of radio; edited by Ralph E. Horton. Ed.2, revised and enlarged. 751p. 1948. Prentice-Hall, New York, $4.

Broadcasting, Feb. 23, 1948, p.83. ½ col.

"Provides the beginner with a simplified, practical and complete home study course in the fundamentals of radiotechnology. It is held no advance knowledge of physics or mathematics is required to understand the presentation . . . Revised and expanded to include a new section on radar and television. A chapter on modern receivers also has been added. The 'spiral' form of subject organization is employed, informing the reader on the simple and concrete before taking up complex principles . . . Question and problem sections and demonstration outlines are included along with 500 diagrams and pictures."

Radio news, April 1948, p.106, 108. ½ col.

"Divided into two parts, the first section dealing with basic radio while the second section covers the more advanced theory, antennas, transmitters, etc. In planning this text the authors have not presupposed any previous knowledge of mathematics or physics. Three short chapters are devoted to a brief discussion of the history of communication, wave motion, and waves in ether. The student is then introduced to a simple radio receiving set. From the crystal unit the student then takes up the elements of tuning, detection, and reproduction. From this point he covers, in easy stages, the various refinements in equipment until the modern superheterodyne is discussed . . . The beginner should have no difficulty in grasping the subject as the book is clearly written and familiar analogies are used throughout."

Scientific American, April 1948, p.185. 10 l.

"This well-known volume constitutes a home study course in basic radio theory. Presupposing no scientific knowledge whatever, the book begins with the most simple and concrete ideas before tackling the more complex principles. Revisions . . . include a new section on radar and television and a new chapter on modern radio receivers." *N. H. U.*

Mark, H., & Proskauer, E. S., ed. Science of plastics. v.1. 632p. 1948. Interscience Publishers, New York, $9.

India rubber journal, March 6, 1948, p.15. ⅝ col.

"A reprint of part of the Mark, Proskauer, and Frilette literature and patent service on 'Resins—Rubber—Plastics,' which has been issued in looseleaf form since 1942 to date . . . The present book collects in classified order, with detailed author and subject indexes, reprints of the general scientific papers on properties and evaluation, physical chemistry of plastics, polymerization reaction theory, and plastics technology for the years 1942-46 inclusive. The remaining abstracts on individual polymers will appear in a promised Volume II. For those not possessing the abstract service, this is a valuable source book, giving accounts of many papers much fuller than the various condensed abstract journals."

Military engineer, April 1948, p.196. ½ col.

"A comprehensive, indexed collection of abstracts of scientific papers on plastics published in the last five years in over a hundred and twenty-five scientific journals. Of interest primarily to chemists, there is still much material of interest to engineers. The contents of this volume are the papers discussing groupings of plastics . . . To anyone working in the field of plastics this is a valuable accumulation of information . . . Of interest chiefly to the specialist, but the reader with only occasional need for the data will also be benefitted. The index is thorough for ready reference to the paper, author, or field needed."

Petroleum processing, March 1948, p.275. ⅓ col.

"Because of the rapid expansion and growth in the plastics industry and its technology, *The Science of Plastics* will provide effective and efficient aid to the researchers in this and related fields . . . Consists of a systematic collection of abstracts and patent data on the most important domestic and foreign papers devoted to the science of plastics and polymers . . . Pertains to data on the properties of polymers in the solid state, the behavior of macromolecules in solution, and the mechanism of polyreactions. Papers restricted to studies on single plastics; for example, polystyrene, cellulose, and the like, have been reserved for a second volume, scheduled for early publication."

Rubber age, Feb. 1948, p.578. ¼ col.

"With the aim of furnishing comprehensive abstracts of the more important published literature, Interscience Publishers introduced an abstract service on 'Resins, Rubbers, Plastics' in 1942. This service is still being offered to industry. It was believed that a systematic collection of these abstracts covering a definite period of time with an extensive subject index would prove of value, and accordingly this book has been issued. Representing reproductions of the original abstracts, the book covers the literature on plastics in the 1942-46 period."

Markwick, Evangeline, and others. Office manual for the medical secretary. 401p. 1947. Gregg, New York, $3.

American journal of nursing, March 1948, p.210. ½ col.

"Should prove valuable not only to those who expect to become office nurses but also to anyone who already holds such a position; in its completeness the book might easily supplement if not replace a standard secretary's handbook. It is certainly the best of several such books which have come to the attention of this reviewer. Written to the specifications drawn by 539 physicians from all over the country who answered a questionnaire sent out by the authors, the book omits no small detail in the management of a doctor's office and lists special requirements needed to fill such a post. The

bibliography is impressive and indicates the authors' thorough preparation before writing the book . . . Unqualifiedly recommended . . . Should prove valuable to counselors in our professional counseling and placement services and might with advantage find a place on the shelves of libraries in schools of nursing." *Mabel Detmold.*

Miller, William E. Television explained. 52p. 1947. Trader Pub., London, 3s. 6d. net.

Electronic engineering, March 1948, p.103. ⅓ col.

"Addressed mainly to knowledgeable members of the public who, having some acquaintance of radio circuits, are equally interested in their television counterparts; to radio service engineers as a grounding in the circuitry they will encounter in maintaining television sets; and to students in radio and television in technical colleges . . . Non-mathematical, and . . . written in simple language. In addition to television reception circuits, aerials and aerial systems are fully explained, and receiver installation and operation is described and illustrated."

Post office electrical engineers' journal, Jan. 1948, p.178. ⅝ col.

"Based on a series of articles which appeared in *The Wireless and Electrical Trader* and which were published with a view to helping dealers and service engineers to pick up the threads of television technique again after the seven years' interval in television transmission caused by the war. Written in simple language it will prove very valuable to the amateur with a good grounding in radio technique who wishes to understand the television receiver or to build his own set." *T. K.*

Mitchell, Katherine, & North, G. G. Food in health and disease. Ed.4, revised. 616p. 1947. Davis, Philadelphia, $3.50.

American journal of nursing, March 1948, p.210. ⅔ col.

"Written in the same simple, concise style as its predecessors. The emphasis, as in previous editions, is on food, although physiological and therapeutic principles are clearly outlined. Mrs. North, co-author of this edition and until recently educational director of the Department of Dietetics at Michael Reese Hospital, Chicago, has directed particular attention to the revision of the section on diet in disease . . . As a whole the material in this book, although not markedly different from the previous edition, has been reorganized for better sequence. It remains valuable as a nutrition text for student nurses, for whom the book was originally written." *Henderika J. Rynbergen.*

Journal of the American Dietetic Association, March 1948, p.234. ⅓ col.

"Much of the section on diet therapy has been entirely rewritten, and additional emphasis has been placed on community nutrition. The general form and outline of the third edition have been retained, and it is well illustrated and maintains its easy style of reading . . . Will continue to be one of the better texts for use by dietitians in instructing student nurses." *Doris Johnson.*

Molloy, Edward, ed. Electrical materials. 111p. 1947. Newnes, London, 5s. net.

Electrical review, April 2, 1948, p.527. ⅓ col.

"Deals in handy form with the characteristics, composition, properties, tests and uses of materials of significance in the electrical industry for magnetic, conducting and insulating purposes . . . The value of the book is enhanced by the inclusion of all necessary references to British Standard Specifications and to other sources of information and the reviewer can thoroughly recommend it." *T. C. G.*

Engineer, Feb. 27, 1948, p.211. ¼ col.

"Forms a useful guide to the composition, characteristics, tests and uses of materials that are commonly used in the electrical industry for their conducting, insulating and magnetic properties. The information is presented in a form designed to help the user to select materials for a wide range of purposes, and to apply them correctly . . . Some omissions are, perhaps, inevitable in a work of this sort, but gaseous conduction, with its important practical applications, is a subject that deserves to be included in any further edition."

Engineering, March 19, 1948, p.288. ¼ col.

"Describes the basic properties and uses of materials employed in the electrical industries for current-conducting, magnetic, and insulating purposes. The information is classified under the six main headings of copper, aluminium, rare and precious metals, ferrous and magnetic materials, insulating materials, and manufactured carbon . . . The sources from which the graphical data were obtained are not always evident, and, in general, the book would be improved by more frequent citation of authorities, in case additional information should be required; such references as are given relate mainly to British standard specifications. While the book cannot be regarded as a small text-book, it should be useful to those who require a compact summary of the functions of electrical materials, especially insulating materials, and the factors which should influence their selection."

Montgomery, C. G., ed. Technique of microwave measurements. 939p. 1947. McGraw, New York, $10. (M.I.T. radiation laboratory series.)

Electrical world, Feb. 14, 1948, p.172. ¼ col.

"Here is an authoritative treatment of the bridge, bolometer, barretter, thermistor and water-load methods of basic circuit measurement of microwave quantities. Those familiar with orthodox procedures for power frequencies will be intrigued by the refinements and transformations required. More important from the standpoint of possible use of microwaves for relay purposes are the techniques detailed for determining frequency, pulse shape, spectrum distribution, phase displacement, amplitude and attenuation."

Nathan, David, & Helmer, Olaf. Analytic geometry. 402p. 1947. Prentice-Hall, New York, $3.50.

American scientist, Jan. 1948, p.188, 190. 10 l.

"Organized around two themes—equations of loci and loci of equations, this textbook, for use in a first course, offers direct preparation for the study of calculus, engineering and the physical and social sciences . . . Will prove of value in developing 'the student's powers of intuition and rigorous thinking, and can provide him with an example of a unified body of thought'."

Nock, Oswald S. British locomotives at work. 260p. 1947. Greenlake Publications,

Ltd., 156 Camden High St., London, N.W. 1, 16s. net.

Engineer, Feb. 27, 1948. p.211. ¼ col.

"Mr. Nock has for long been known for his clear, lucid accounts of locomotive working . . . In this most interesting and entertaining book he gives an account of footplate journeys he has made on many of the better-known types of locomotives on the main lines of this country. The runs described were made between 1934 and 1939—a time of many outstanding performances on British railways. The descriptions of the runs are interspersed with entertaining and enlightening comment and much interesting technical information. Many excellent 'action' photographs of well-known locomotives are included in the book and add considerably to its value. There is no doubt that this will be welcomed as a valuable addition to locomotive literature, and its readers will look forward with keen interest to the promised companion volume on Scottish runs made by the author."

Engineering, Feb. 27, 1948, p.212. ½ col.

"Mr. O. S. Nock is one of the select band of footplate travellers, and this book is a record of some journeys he made in England between 1934 and 1939. Some of the information has already appeared in periodicals, but in the present form the author has incorporated notes on locomotive developments which are complementary to the recorded performances."

Otis, Jay L., & Leukart, R. H. Job evaluation. 473p. 1948. Prentice-Hall, New York, $6.65 (Schools, $5).

American machinist, March 25, 1948, p.178. ⅔ col.

"This most complete, authoritative and easily understood book is directed to persons—management personnel as well as those employed in wage administration—who need a knowledge of what constitutes sound wage and salary administration and of its techniques . . . Covers all the factors affecting job evaluation and gives, as well, much detailed information on its actual planning, installation and operation. Reliability and validity are treated intelligently, and good ideas are given on establishing the wage curve and pay structure . . . Will also prove useful in conducting college-grade courses on the subject, because it is so well rounded-out factually and it brings together the thoughts of leaders in the field."

Factory management and maintenance, April 1948, p.228. 9 l.

"Essentials of wage and salary administration based on job evaluation are presented. Methods of developing such a plan are discussed, as well as various techniques that have been used in their development. Quantitative and non-quantitative systems are reported, as well as the step-by-step procedure in setting up a workable system."

N.A.C.A. bulletin, April 15, 1948, *section 2,* p.1051. ½ p.

"A textbook on the subject of job evaluation and wage administration, intended for students and adults alike . . . The chapters run from 'Basic Problems in Wage and Salary Administration' at the start to 'Wage and Salary Administration as a Management Control' at the close. Types of job evaluation systems, planning the evaluation program, getting job facts and descriptions, classification of employees, and the relationship between classification and pay structure and between job evaluation and collective bargaining, are among the topics covered. A six-page bibliography is included as an appendix."

Parsons, R. H. History of the Institution of Mechanical Engineers. 300p. 1947. Institution of Mechanical Engineers, London, 17s. 6d.

Automobile engineer, March 1948, p.92. 1⅝ col.

"The author . . . has had the impossible task of condensing one hundred years of achievement and advancement into less than 300 pages. It has only been possible to do this in the form of a history book. The principal events in the history of the Institution are presented in chronological order. So much detail has been included that sometimes the text consists of a mere statement of facts. The reader is often carried through page upon page of somewhat unconnected statements, diary fashion. Every conceivable topic of interest is referred to in rapid succession in order to record the events of progress from year to year in correct sequence."

Iron and steel, March 1948, p.92. ⅔ col.

"Written to celebrate the centenary of the Institution, this publication covers the history of the last hundred years in some detail, each twenty years having a chapter to itself . . . Throughout the book the writing is indeed of a high standard. Metallurgical matters occupy a considerable place, and on turning through the pages there is a constant reference to steelmaking or some cognate matter full of interest to anyone with a historical bent."

Penman, David, & Penman, J. S. Principles and practice of mine ventilation; being a treatise on modern methods of mine ventilation, with a consideration of deep mine problems, explosions, fires, rescue and recovery work, and cognate subjects. Ed.2, revised and reset. 337p. C. Griffin, London, 30s.

Iron and coal trades review, March 26, 1948, p.648. ½ col.

"Considerable new matter has been introduced covering the progress in the general subject since the book was first published. The general arrangement remains unchanged, the revisions having been made at appropriate points in the original text. Both authors are holders of First Class Colliery Managers' Certificates and have practical experience of their subject. There are 230 folding and other illustrations . . . Contains as appendices, hygrometric tables, simple arithmetical questions and questions selected from papers set at recent examinations for First-Class (Managers') and Second-Class (Undermanagers') Certificates of Competency."

Mining magazine, March 1948, p.154. ⅝ col.

"Much new matter has been incorporated in the text, although, to quote the preface, 'without alteration to the general framework of the book as originally designed.' The result is a work that will be very useful to those engineers engaged in the modernization of the British coal pits and of value to metal miners facing ventilation problems in workings that tend to get ever deeper . . . Ventilation as a subject has grown in importance and to its theory and application the present manual will serve as a useful guide."

Perry, Josephine. The plastics industry. 127p. 1947. Longmans, New York, $2. (America at work series.)

Science education, Feb. 1948, p.48. ½ col.

"The text has been kept free from tedious, involved technical descriptions of manufacturing processes. And yet enough technical information and background material is presented for a good understanding of this relatively young and increasingly important industry. More than three score photographic illustrations supplement the textual material." *G. B. K.*

Phillips, E. N., and others. High frequency measuring techniques using transmission lines. 58p. John F. Rider, New York, $1.50 unbound.

Broadcast engineers' journal, Feb. 1948, p.10. ¼ col.

"At the present time, the most convenient tool for measurement in the frequency spectrum above 100 mc is a shielded transmission line with a continuous slot along its axial length. When properly equipped with a measuring scale along this length and an index to indicate the position of a probe which explores the field between the conductors, this equipment can be used to measure wave-length, impedance, velocity of propagation, electrical length, and attenuation in four-terminal networks. This treatise describes techniques for determining these quantities."

Electronic engineering, April 1948, p.135. ¼ col.

"Describes the use of a slotted coaxial transmission line with a travelling probe for the measurement of wave-length, impedance, velocity of propagation and attenuation in the U.H.F. range. A collection is given of the formulae required to convert from the standing wave ratio and probe position data derived from the line to the quantity it is desired to measure, together with many numerical examples illustrating the application of the formulae and the accuracy obtainable in practice. Although somewhat specialised in character and limited in scope the booklet can be recommended to those concerned with this particular phase of U.H.F. measurement technique." *W. J. Bray.*

Proskauer, E. S. See Mark, H., & Proskauer, E. S., ed.

Rabl, Samuel S. Boat building in your own backyard. 192p. 1947. Cornell Maritime Press, New York, $5.

Popular homecraft, Jan.-Feb. 1948, p.151. ⅛ col.

"Written for the amateur, using simple language, easy to follow diagrams, and giving such complete instructions that the book lives up to its title. The author's excellent background and experience in boat building makes him able to bring out every phase of this profession or hobby, as it may be, from the choice of woods to the installation of a motor. Every possible snag which could come up during a boat's construction is handled so anyone can be able to cope with a situation as it arises."

Roberts, Arthur, ed. Radar beacons. 489p. 1947. McGraw, New York, $5. (M.I.T. radiation laboratory series, v.3.)

General Electric review, April 1948, p.59. ½ col.

"Represents a very comprehensive treatment of the various types of radar beacons. It is unique in that it is the only book ever published on the subject . . . Because *Radar Beacons* is alone in its field, and since it is so complete in its coverage, it is likely to serve as a beacon designer's bible for some time to come. Its influence will be strongly felt upon the design and placement of beacons as navigational aids to commercial planes and ships. It is to be hoped that the editors will ultimately undertake a treatment of Ramark beacons, perhaps developed too late for inclusion." *L. H. Lynn.*

Radio-craft, April 1948, p.87. ⅓ col.

"The equipment and systems described . . . are the collective result of work done in the United States, England, Canada, and other countries . . . Divided into four parts. The first discusses the nature of radar beacons and the principles on which beacon systems are designed. The second section deals with the design of radar beacons, covering r.f. components and circuits in beacon systems. Beacon interrogator system design is carefully discussed in part three. Band-width considerations in receivers and transmitters, antenna design, and indicators are also discussed from several points of view. Field operation of beacon system is covered in the last section. There is also a complete bibliography of reference books and glossary of the new terms used in the text."

Sahyun, Melville, ed. Proteins and amino acids in nutrition. 566p. 1948. Reinhold, New York, $7.50.

Canadian chemistry and process industries, March 1948, p.248. ⅔ col.

"An attempt is made to point out the important role [sic] of protein in nutrition, consequences of protein and amino acid deficiencies, and to a certain extent the existing intimate relationships between proteins and carbohydrates, fats, vitamins and mineral salts, with the obvious purpose of gaining a clearer concept of the fundamentals involved in good animal nutrition."

Food industries, April 1948, p.215. ½ col.

"With our growing recognition of the importance of adequate food supplies throughout the world, the economic value of finding low cost foods of highest nutritional value becomes more and more apparent. While this volume is not a treatise on the economic feeding of great numbers of persons, its appearance at this time lends special interest to its contents. As its title suggests, the book points out the role [sic] of proteins in nutrition along with the consequences of protein and amino acid deficiencies. In recognition of the other basic components of the human diet, consideration is also given to the intimate nutritional relationships that proteins bear to carbohydrates, fats, vitamins and mineral salts."

Sandage, Charles H. Advertising; theory and practice. Ed.3, revised and reset. 626p. 1948. Irwin, Chicago, $6.

Journal of business education, March 1948, p.49. ¼ col.

"Presents a well-rounded picture of the subject, giving consideration to important technical aspects as well as to the fundamental principles of research as a basis for advertising work . . . All material has been brought up to date, new illustrations have been added, and recognition given to new developments which have taken place in advertising in recent years. For example, the use of advertising to educate the public concerning various social, humanitarian, and economic values is indicated in the

work of the Advertising Council among others. The close relationship of advertising and public relations is recognized in a new chapter which analyzes the factors common to both and considers methods for coordination."

Printers' ink, Feb. 27, 1948, p.76. 12 l.

"A new chapter deals with advertising and public relations; there's a new page on trademarks to take care of the Lanham Act; and there's a little more information about the Townsend Method than before, and some new advertisements are reproduced. Probably an even more usable book than the previous editions."

Scorer, S. D. Vertical boiler defects and repairs. 40p. 1947. John D. Troup, Ltd., London, 5s. 6d.

Mechanical world, Feb. 27, 1948, p.251. ½ col.

"Practically all the forms of vertical boiler are dealt with, and as much of the material is applicable to other types the booklet is really a sound investment for any factory engineer concerned with the smaller industrial boiler plants. Indeed, it will serve its purpose admirably if it merely enables him to appreciate the requirements and recommendations of the boiler insurance company, and it will undoubtedly fulfil this function." *W. W.*

Simons, Eric N. Steel files. 136p. 1947. Pitman, London, 15s. net.

Mechanical world, Feb. 27, 1948, p.251. ⅔ col.

"An unusual book on an unusual subject. The ordinary engineer seldom looks on the file as a specialised tool made for specific application and generally exercises little discrimination in choice . . . The book . . . presents a straightforward and very readable account of file manufacture and testing with many valuable hints on the selection and use of the hundreds of different kinds of file available. These are adapted to every conceivable tool-using trade, and each is calculated to yield the highest efficiency when employed on its legitimate work . . . Can be recommended unreservedly to the young craftsman as a means of increasing his skill with hand tools, and even those whose outlook is more mature will find plenty of food for thought within its covers." *J. W.*

Smith, Edward S. Control charts; an introduction to statistical quality control. 161p. 1947. McGraw, New York, $3.

Electrical world, March 27, 1948, p.154. ¼ col.

"Emphasis is placed on the practical application of statistical quality control rather than on the mathematical background of the methods that lead to improved product at lowered cost. Probability and frequency distribution are explained by simple examples. How poor workmanship, a faulty machine or inferior material can upset quality is similarly analyzed, in somewhat extensive detail . . . A final chapter takes up the formulas of standard practice previously discussed in terms of charts and chart construction."

General Electric review, March 1948, p.57. ¼ col.

"Prepared with the aim of teaching the basic principles to everyone concerned with production. While not exactly a popularization, it does an excellent job of simplification . . . Professor Smith outlines the subject in a truly painless fashion. In fact, he doesn't mention 'sigmas' or 'standard deviations' until page 132. The type is large, the style is readable; yet it may not satisfy one who prefers to see detailed derivations of all formulas. However, it should appeal to those who are not familiar with mathematical statistics; to those who would like to gain a working knowledge, a speaking acquaintance, with the subject in a minimum length of time." *A. A. Merrill.*

Product engineering, April 1948, p.190, 192. ⅓ col.

"Designed for the busy executive in industry, this book provides a simplified semi-mathematical introduction to charts of statistical quality control covering their construction, interpretation and practical application. Control charts for averages, ranges, fraction defective, number of defectives and number of defects are developed gradually with careful explanations and clear diagrams. Mathematical formulas are used but held to the absolute minimum."

Sollmann, Torald. Manual of pharmacology and its application to therapeutics and toxicology. Ed.7, revised. 1132p. 1948. Saunders, Philadelphia, $11.50.

American journal of pharmacy, Jan. 1948, p.32. ⅔ p.

"'Sollmann's Pharmacology' has long been a standard text for students of medicine and pharmacy. It has always leaned toward the practical side of the subject just as some other books are predominantly theoretical or experimental. The selection of a text is largely a matter of the personal feelings of the teacher and those who believe in teaching pharmacology in such a way that the student learns something about uses, doses and other practical data will find in this new edition the same sound treatment of the subject as always . . . The experimental pharmacologist will find the book . . . too practical and more a 'materia medica' than a treatise on pharmacology. In all this they are right and it may be expecting too much for any one book to cover all aspects of pharmacology in an adequate manner." *L. F. Tice.*

Spencer-Jones, Harold. Picture of the universe. 88p. 1947. Raven Bks., Ltd., 226 Latymer Court, London, W.6, 3s. net.

Mechanical world, Jan. 30, 1948, p.137. ⅓ col.

"An instructive account of the universe . . . by no less an authority than the Astronomer Royal himself . . . Extremely lucid and explains the rotation of the earth and time, describes the solar system, explains the motions of the moon, the sun and the planets, tells something of comets, meteors and the stars, and finally, in broad outline, what is known of the greater universe itself. Apart from general interest, the engineer will be particularly attracted by some of the comparisons, some of the figures of size and density, the distribution of materials, and how measurements are made."

Stanway, H. Geddes. Applied job evaluation. 81p. 1947. Ronald, New York, $3.50.

Drug & cosmetic industry, March 1948, p.408. ½ col.

"A technical subject discussed in well organized, non-technical language, and provides a working text for those who are not specialists but need to understand the why's and how's of job ratings and corresponding wage scales. The author is well qualified to discuss this subject, which is becoming more and more important in labor management relationship . . .

His points are illustrated by actual case histories and experiences from the war years when this science received its greatest impetus."

Modern industry, Feb. 15, 1948, p.92. 12 l.

"An aid to supervisors and personnel men in setting up and administering job-evaluation programs . . . Profusely illustrated with sample forms, wage scales, and charts. A brief book, it outlines how to get job facts, set up classifications, determine point values. Also covered are training of supervisory personnel, wage adjustments, wage and salary area surveys, and surveys on the cost of living."

Personnel journal, March 1948, p.348. 1¼ p.

"Not one of the better books among the many on this subject issued in the past few years. The plan described employs eight factor scales when four will do the work . . . A disappointing book which adds nothing to existing literature and, on the contrary, repeats many errors and misconceptions of other writers."

Stearns, Howard O. Elementary medical physics. 354p. 1947. Macmillan, New York, $4.75.

Journal of the American Medical Association, Jan. 10, 1948, p.142. ⅓ col.

"Written with the laudable idea of correlating the important subject of physics with biologic and medical sciences and of pointing out to the students where and how the laws of physics are applied to apparatus and instruments used in the practice of medicine. The objective of the author is meritorious . . . Aimed at the level of an introductory course in college. The author has made an attempt to simplify the mathematical analysis which is so necessary to an understanding of physics . . . Colleges and universities training premedical students might well consider use of this textbook . . . Recommended as a supplemental textbook for the special classes composed of premedical students only. Teachers of physical therapy and x-ray technicians will find the textbook a useful pedagogic aid."

Stephanides, T. The microscope and the practical principles of observation. 160p. 1947. Faber, London, 10s. 6d.

Journal of scientific instruments, Dec. 1947, p.334. ⅔ col.

"As may be imagined from the relatively small number of diagrams (twenty), this book is a departure from the usual approach to instruction in microscopical technique. It has, as its object, the guidance of those who, whilst compelled to use the microscope in the course of their medical or biological studies, have but little interest in the theory, design, or relative merits of the innumerable forms of apparatus now available, and are mainly concerned with the use of standard components, who are, moreover, prepared to accept standardized methods of working, provided these enable them to obtain adequate results with both a minimum of experience and the avoidance of those distractions which the attainment of a really high operational standard entails . . . Well produced and the line diagrams are clear and informative. A bibliography is included, and an adequate index completes a work which should be of great assistance to all who have occasion to use the microscope as a tool rather than as a means of recreation." *F. E. J. Ockenden.*

Journal of the Iron and Steel Institute, March 1948, p.416. 7 l.

"Intended for medical students, research workers, and all who need to understand the proper handling of the microscope. Part I describes the construction of microscopes, and discusses the relative merits of the available types. Part II describes the technique of microscopical observation. Definitions of terms used in microscopy are appended." *R. E.*

Stewart, David S. Practical design of simple steel structures. Ed.3. v.1. 201p. Constable, London, 15s. net.

Engineering, March 19, 1948, p.288. ¼ col.

"The contents of volume I are very much as they were in previous editions, except that the structural tables, formerly published separately as Volume III have now been included in Volume I. The ground covered includes shop practice and the design of riveted connections and beams. The author assumes that the reader has only a slight knowledge of the theory of structures and none at all of rolled-steel sections or of shop practice; therefore, the book is essentially one for beginners . . . Should . . . be useful to the category of readers for whom it has been written."

Strock, Clifford. Heating and ventilating's engineering databook. 576p. 1948. Industrial Press, New York, $7.

Fueloil & oil heat, March 1948, p.180, 182. ⅝ col.

"Organized into ten sections: Heat and moisture in air, fuels and combustion, piping, air handling and ventilation, heating and heat transmission, cooling and air conditioning, motors and drives, contract law, mathematical data and drafting room practice, and terminology. Intended for use by design, installation and operating engineers, the time-saving and large-scale charts simplify every-day estimating and design problems . . . Throughout the Databook emphasis is placed on the actual facts needed in design, with only sufficient text included to explain the use of the data. Information on the heat pump, electrothermal storage, snow melting, heating with diesel engines, solar water heating and radiant panel heating is included."

Refrigerating engineering, March 1948, p.268. ⅝ col.

"Purely practical in character, the *Engineering Databook* is intended for everyday use by heating, ventilating, and air conditioning engineers, contractors, plant engineers, and architects. Emphasis is placed on the data needed in actual design with only sufficient text to explain the use of the data . . . Includes recent information on the heat pump, electrothermal storage, snow melting, heating with diesel engines, solar water heating, and radiant (panel) heating. An unusual feature . . . is the section devoted to the law of contracts. This section is based on actual higher court decisions which apply specifically to heating, ventilating, and air conditioning cases. The validity of contracts, implied warranty, technical competence, alteration of plans, inconspicuous clauses, and other legal matters of interest to the builder and engineer are discussed . . . Contains 193 charts and illustrations and 317 tables of essential data."

Stuart, F. S., & Biard, H. C. Modern air transport. 186p. 1947. Long, London, 18s.

Aeronautical engineering review, Jan. 1948, p.61. ⅝ col.

"The possibilities and realities of modern air transport are discussed in simple language by the authors, who have been collaborating for

some 15 years on investigating the subject . . . All the important phases of air transport are discussed in considerable detail."

Svoboda, Antonin. Computing mechanisms and linkages. 359p. 1948. McGraw, New York, $4.50. (M.I.T. radiation laboratory series, v.27.)

Aeronautical engineering review, April 1948, p.74. ½ col.

"The emphasis in this volume is on practical methods. The design techniques described were developed by the author during the late war, for the most part before he became associated with the Radiation Laboratory. The development of the methods presented in this discussion of the mathematical design of linkage computers grew out of the author's collaboration with Dr. Vladimir Vand, which was begun in France in 1940 and brought to a premature conclusion by the progress of the war. Because of war conditions, the author had to concentrate on practical methods rather than on the development of a systematic analysis of the subject."

Electronics, April 1948, p.250. ⅓ col.

"The subject of this volume is probably the only one of the series that does not depend in some way upon the electron tube. At the same time, the principles outlined in the book may well be tied in economically to the control of, or be actuated by, tube devices . . . For the mechanical engineer engaged in the computing aspects of modern automatic electronic equipment the book should be most useful." *A. A. McK.*

Trevethick, R. A. Advanced industrial first-aid. 63p. 1948. Henry Garnett & Co., Ltd., Rotherham, Yorkshire, England, 3s.

Iron and coal trades review, March 5, 1948, p.500. ⅓ col.

"Specially written for the use of the various first-aid teams throughout their works. The author recalls in the preface that many new developments in this connection have taken place during the war and an attempt has been made to incorporate in the booklet the latest treatment as first-aid in cases of accident. This includes the application of dry sterile dressings and complete avoidance of popular antiseptics, it being left for a doctor to remove harmful organisms from a wound. The use of a tourniquet in the treatment of hæmorrhage is condemned outright . . . The most valuable asset of any first-aider in the author's view is common sense, and not a slavish routine learned by heart from a book."

Marine engineer, March 1948, p.130. 10 l.

"Dr. R. A. Trevethick, the Resident Medical Officer of Steel, Peech & Tozer, a member of the United Steel Companies Group, has written this excellent little manual which should be in every works first-aid room and in every seagoing chief engineer's cabin . . . Clearly written with commendable economy of words and the binding is as stout as it should be for a little work which will undoubtedly be frequently consulted."

Mechanical world, March 5, 1948, p.268. ½ col.

"Notably clear in its exposition of fundamentals, and although it is described in the title as 'Advanced,' the very fact that the fundamentals are so lucidly stated while the text is unencumbered by the ordinary matters of first aid makes it particularly informative to the non-first aider, since with this fundamental knowledge he can at least avoid injuring the victim further while at the same time helping him until first-aid arrives. It is, however, in its skilled advice to first-aid men that the particular value of the booklet lies, and for that reason as well as for the one given above it will be a welcome addition to the first aid box in any workplace, though of course it should be read, and read widely by all concerned, beforehand."

Sheet metal industries, April 1948, p.738. ⅓ col.

"Written, not as primary instruction for those making a first study of the subject, but rather for those who have already acquired some knowledge of anatomy, bandage tying, etc. The main theme . . . is simplicity coupled with speed, as it is emphasised that elaborate first aid treatment destroys its own objective, *viz.* to get the patient to hospital or a doctor as quickly as possible. Each chapter . . . deals with a major subject, and the information contained therein is presented in such a way that it can be easily memorised."

Turner, Claude A. P. Natural philosophy of the science of physics; chemistry and engineering. 320p. 1947. The Author, 964 N. High St., Columbus, Ohio, $6.

Engineering news-record, March 4, 1948, p.96. ¼ col.

"About two thirds of this book is given over to a presentation of the author's views on a variety of subjects in the fields of physics and chemistry. The remainder contains a discussion of the defects of the U. S. patent system and their effect on some of the early developments in reinforced concrete design, in which the author did much pioneer work, also a review of the author's studies of reinforced concrete design with Henry Turner Eddy. In the appendix the author sets forth his views on the 'backward progress of America today'."

Uhlig, Herbert H., ed. Corrosion handbook. 1188p. 1948. Wiley, New York, $12.

Chemical engineering, April 1948, p.285-286, 288. 2¼ col. including an illustration.

"The first handbook ever compiled for corrosion engineers. It is hard to see how any corrosion engineer can afford to be without one. It is comprehensive; it is authoritative; it is carefully edited and printed . . . The contributors list contains 103 names and reads like a who's who in corrosion . . . The list is full of top-drawer experts . . . All in all we suspect that the Electrochemical Society has made a historic contribution to corrosion literature." *E. C. Fetter.*

Electronic industries & electronic instrumentation, April 1948, p.29. 7 l.

"A comprehensive work including basic theory; corrosion behavior—acqueous [sic] and atmospheric—of metals and alloys; corrosion behavior at high temperatures; protection against corrosion; and corrosion testing. This book is sure to become a popular reference manual for engineers in almost every field where metals (both common and rarer types), and metal finishing materials are used."

Industry and power, April 1948, p.180. ½ col.

"In addition to being a condensed summary of corrosion information this book includes within its scope a cross section of scientific data, and industrial experience. The combined efforts of 102 leading scientists and engineers, recognized as the acknowledged leaders in their field, have

been successfully correlated. Some of the material is entirely original, never before having been published . . . This book will supply students and specialists the essential material necessary for attacking the problems of corrosion."

Petroleum processing, April 1948. p.379. ¾ col.

"A result of plans growing out of informal conversations at an annual corrosion inspection by International Nickel Co. and at early corrosion conferences of the American Association for the Advancement of Science . . . These plans led in part to the organization of the Corrosion Division of the Electrochemical Society in 1942, which group set as one of its first objectives the publication of this type of convenient reference volume. The kind of information presented is exemplified by the section headings in the book: theory; corrosion in liquid, gases, and the atmosphere; special topics, soil, sea water, lubricants, mechanical factors; high-temperature corrosion; corrosion protection; and testing methods. Throughout . . . the emphasis has been on quantitative information . . . Two useful sections . . . are a glossary of terms used in corrosion, and a list of abbreviations. In addition, a comprehensive appendix presents general tables of value to the corrosion engineer, high-temperature equilibria for oxidation and carburization of iron, and photographic illustrations of typical forms of corrosion."

United States—Radio Research Laboratory, Harvard University. Very high-frequency techniques. 2v. 1057p. 1947. McGraw, New York, $14.

Electronics, March 1948, p.260, 262. 1⅛ col.

"There is a great deal of interesting material contained in these volumes. The presentation suffers somewhat from the difficulties which inevitably accompany multiple authorship: the differences in terminology and points of view of approximately 50 authors have not been completely eliminated . . . An adequate index is included, together with a bibliography: the latter is probably most valuable for its inclusion of a list of recently declassified internal reports available through the Department of Commerce." *B. J. Miller.*

General Electric review, March 1948, p.58. ⅜ col.

"There is no pretense that these books are a comprehensive text. They are a summary of the work carried out during the war by and for the Radar Countermeasures Group, Division 15, National Defense Research Committee. For this reason, the books are in the nature of an extensive technical report in which the authors have recorded a vast amount of detailed information . . . Generously illustrated by excellent line drawings which should prove particularly helpful. There is a wealth of practical information on measurement technique as well as much detailed information on the performance of specific systems and devices. The books are definitely not for the beginner. However, the practicing design engineer and the research and development worker should find many cases where they will serve as valuable reference handbooks." *E. D. McArthur.*

Wireless engineer, March 1948, p.87. 1⅝ col.

"Most books dealing with the war-time developments at very-high frequencies which have hitherto been published have been primarily concerned with pulse techniques and radar methods. It is, therefore, quite a change to find a book in which pulses are hardly mentioned and it makes it one which is likely to be of unusually great value to the communications engineer . . . In general, the treatment is not analytic and it is very largely non-mathematical. It is very practical, however, and well-illustrated by drawings of oscillator assemblies. The emphasis is always on apparatus for a wide frequency range rather than on equipment for spot-frequency operation. This makes design much more difficult and so greatly enhances the value of the treatment . . . The emphasis is on practice and theory is given with a minimum of mathematics and in a readily understandable way . . . A book which should be invaluable to all concerned with frequencies of over 100 Mc/s. There is also a good deal in it of application to somewhat lower frequencies." *W. T. C.*

Van den Broek, John A. Theory of limit design. 144p. 1948. Wiley, New York, $3.50.

Aeronautical engineering review, April 1948, p.73. 2 col.

"Summarizes all . . . [the author's] previous work and contains some worth-while new materials, such as stress-strain diagrams for various structural alloys . . . Should prove to be interesting reading to every structural engineer, because it brings out clearly the role [sic] played by ductility and uncovers many 'hidden assumptions' in accepted stress analysis methods. *Beams* and *columns* form the main subject matter of the book; there is also a short but interesting treatment of *connections." F. R. Shanley.*

Military engineer, March 1948, p.148. ⅜ col.

"A clear, logical exposition of the argument that in structural design, engineers have been attacking the problem of strength from the wrong angle for the past fifty years . . . Starting with a discussion of physical properties of metals, the author proceeds to implement his theory that strains are primary and stresses secondary in explaining limit design of simple structures, redundant beams, and trusses. Written in a highly readable style, this is yet a highly theoretical book which will no doubt stimulate much controversy and re-examination of assumptions in structural design." *R. A.*

Product engineering, April 1948, p.186. 1 col.

"Professor Van Den Broek is admittedly an enthusiast for the cause of teaching design in terms of deformations within the given structure. His book is an excellent presentation of the philosophy and basic theory of limit design . . . While the theory is perfectly valid for the machine design field, illustrations and applications are drawn from the civil engineer's large structures, such as transmission towers. It is hoped that a similar text will be written with strong emphasis on the design of machine elements; where the structural members have a greater variety of shapes and more complex arrangements. Such a book is badly needed to synthesize the results of practical machine design and experimental stress analysis; and it could be incorporated with great benefit in most mechanical engineering courses."

Walker, William F. Form tools. 301p. 1948. Hutchinson, London, 25s. net.

Mechanical world, March 12, 1948, p.297. 1¼ col.

"Considering its vital importance, there has always existed a paucity of detailed information on this subject, beyond that found in en-

gineering handbooks or in manuals published by makers of turret lathes and automatic turning machines. This very comprehensive work, therefore, fills a very real need, and it may eventually come to be regarded as the standard book on form tools. It is definitely a work of reference, being set out in concise and complete sections, each of which deals fully with one type of form tool or with one particular phase of the subject . . . While a certain amount of mathematics is eminently necessary to such a subject, the author has succeeded in keeping this to the minimum, and in making it understood by anyone possessing the rudiments of shop arithmetic. The writer is an expert in his own field, from which he nowhere strays in order to pad out his work with matters which, while perhaps applicable to the employment of form tools, is more readily dealt with in other directions . . . A very able work on a matter of some importance to-day. The author is to be congratulated on carrying it through so thoroughly, and on the clarity of the many line drawings and diagrams with which the book abounds; while to the publishers should be given the thanks and support of the technicians whom they have so successfully set out to serve." *E. S.*

Waugh, Sidney. The making of fine glass. 95p. 1947. Dodd, New York, $3.

Ceramic industry, Feb. 1948, p.60. ⅓ col.

"Intended for designers, critics, students, and those who wish, to understand the fundamental processes of glassmaking. The first chapter treats design . . . There are chapters on blowing glass, furnace and shop layout, fully illustrated. Other chapters are on tools, with descriptions and illustrations, basic manipulation with illustrations and text; making a goblet, with many illustrations; decorative bowls, with illustrations of the different steps in this work; also gaffered forms; cutting; engraving; and typical pieces."

Williams, D. R. H. Machinery, management, and control in a wool textile factory. 246p. 1947. Emmott, Manchester, England, 30s. net.

Journal of the Textile Institute, Feb. 1948, p.P86. ⅘ p.

"In his book . . . Mr. D. R. H. Williams has brought to the task of writing the same keen analytical approach that he used in research for the material for it . . . Covers worsted manufacturing from the purchase of yarn to the finished piece and Mr. Williams has taken us through each department in turn explaining the things we should do, and the things we should not do. He has also given us a modern factory lay-out for this type of manufacture . . . Written in refreshing style, easy to read and is full of anecdote and examples, and we feel sure the student of wool textiles will find it a valuable source of information which is easy to assimilate." *G. E. Birkenshaw.*

Textile world, April 1948, p.268. ⅓ col.

"The author is the owner of a worsted weaving plant and he states that the departmental organization described in this book has been followed with success and usefulness in his plant for some years. He has been active in trade associations and in government bureaus and consequently has a broad viewpoint . . . The extensive detail with which the subject is treated makes it likely that any worsted-fabric mill might pick up profitable ideas from this book."

Younger, John, & Geschelin, Joseph. Work routing, scheduling and dispatching in production. Ed.3, revised and rewritten. 168p. 1947. Ronald, New York, $3.50.

Automotive industries, March 15, 1948, p.292. ¼ col.

"Although originally intended as a text for students in engineering schools and for those specializing in industrial engineering the present edition should be of value to practicing engineers and others concerned with plant management. It is also hoped that the text can be useful in training courses planned by the large manufacturers. The subject matter covers the gamut of problems that are met in the production and planning departments, the text being arranged for quick reading and profusely illustrated."

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